

REMARKS

Applicants appreciate the thorough examination of the present application as evidenced by the Office Action and the indication of allowable subject matter in Claim 20. Applicants submit that the rejections should be withdrawn as the claims are patentable over the cited art for at least the reasons discussed below.

Drawing Objection

The Office Action objects to the drawings as not showing "conductive structures on both sides of the temporary." (Office Action). As an initial matter, Applicants submit that none of the claims recite conductive structures on both sides of the temporary substrate (TS) so no such structures should be shown in the drawings. However, as Applicants believe the Examiner may have been referring to additional described structures that may be adhesively secured or soldered to the electrically conductive structure as recited in Claim 9, an amended drawing sheet is attached including a revised Figure 1. An item 10 is added to Figure 1 and a corresponding description is added to the specification above. No new matter is added as these features were fully described in the application as filed. (*See, e.g.*, specification, p. 3, lines 17-20, p. 6, lines 6-7, p. 8, lines 1-4). Accordingly, Applicants request withdrawal of the objection to the drawings.

The Section 102 Rejections

Claims 1-2, 4-11, 13-20 and 23-26 stand rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent No. 6,118,502 to Yamazaki et al. ("Yamazaki"). Under 35 U.S.C. § 102, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (quoting *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)). "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be

established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." M.P.E.P. § 2112 (citations omitted) (emphasis added).

A finding of anticipation further requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art. *See Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 U.S.P.Q.2d 1001 (Fed. Cir. 1991). Thus, anticipation requires that a single prior art reference disclose each and every element of the anticipated claim.

The Office Action asserts that the title, abstract and Figure 3 of Yamazaki anticipate Claim 1. The Office Action appears to also assert that the "driver circuit" of Yamazaki corresponds to the "electrically conductive structure" of Claim 1. (Office Action, p. 3). Applicants assume this is a reference to the driver circuit portion 7 illustrated in Figure 1 of Yamazaki and, more particularly, the semiconductor integrated circuit 2. (Yamazaki, Col. 4, lines 44-45). Applicants further assume the Office Action is asserting the substrate 1 of Yamazaki as the carrier element of Claim 1, although, give the general reference to Figure 3, it is possible the Office Action is referring to the counter substrate 16.

Regardless of what aspects of Yamazaki the ambiguous rejection of Claim 1 refers to, Yamazaki fails to disclose or suggest an arrangement with an electrically conductive structure on one surface of a carrier element and additional components on an opposite side of the carrier element as recited in Claim 1 and illustrated, for example, in Figure 1 of the present application. In particular, regardless of whether the Office Action is referring to item 1 or 16 of Yamazaki as disclosing the carrier element of Claim 1, neither of these structures shows electrical components of a circuit on both sides thereof. Instead, the substrates 1, 16 of Yamazaki appear to define a housing for a liquid plasma display. (Yamazaki, Col. 5, lines 1-16). The electrical circuit is further environmentally sealed by a sealing material 17 so there would appear to be no incentive to extend portions of the circuit of Yamazaki to the outer face of either substrate 1, 16 where they would not be so sealed for "moisture resistance." (Yamazaki, Col. 5, lines 2-3). Claim 1 has been amended above to further clarify the structural relationship between the carrier and the electrically conductive structure. Accordingly, the rejections of Claim 1 and the claims that depend therefrom should be

withdrawn for at least these reasons.

The Office Action appears to rely on the same aspects of Yamazaki, except for using Figure 5 rather than Figure 3, in rejecting independent method Claim 14. Claim 14 has been amended above to clarify that the applied composition is hardened to form the carrier element that carries the electrical circuit. While the Office Action fails to particularly cite what features of Figure 5 are relied on for the rejection, it would appear from the Abstract that the Examiner is regarding the peeling layer 32 being selectively etched as "removing the temporary substrate" as recited in Claim 14. However, the Office Action must then be treating the substrate 49 of Yamazaki as the applied "composition" of Claim 14. The substrate 49 is neither a composition nor is it hardened, not do any further components extend through the substrate 49. The adhesive 51 of Yamazaki is not a carrier that carries any electrical components. Accordingly, the rejections of Claim 14 and the claims that depend therefrom should be withdrawn for at least these reasons.

Various of the dependent claims rejected as anticipated are also separately patentable. For example, Claims 9, 23 and 26 each recite that components are adhesively secured or soldered to the structure. The Office Action asserts that Yamazaki discloses an adhesive 3, 51 that holds components to the substrate. (Office Action, p. 3). However, to correspond to the components recited in these claims, the adhesive would have to secure components to outer faces of the structure of Yamazaki, and such is clearly not the case as seen, for example, in Figure 3 of Yamazaki. Claims 13 and 26 recite that these components are surface mount components. Again, the Office Action recites to Yamazaki, which discloses no such components on the outer faces of its liquid plasma display structure. Accordingly, the rejections of Claims 9, 13, 23 and 26 should also be withdrawn for at least these additional reasons.

The Section 103 Rejections:

Claims 3 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki et al. in view of United States Patent No. 5,426,850 to Fukutomi et al. ("Fukutomi"). Claims 21-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yamazaki et al. in view of United States Patent No. 5,202,273 to Nakamura

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("Nakamura"). These dependent claims are patentable at least based on the patentability of the claims from which they depend. Applicants further submit that the claims are separately patentable for at least the reasons discussed below.

To establish a prima facie case of obviousness, the prior art reference or references when combined must not only teach or suggest *all* the recitations of the claim, there must also be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01, citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). To support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Court of Appeals for the Federal Circuit has further stated that, to support combining or modifying references, there must be **particular** evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, **would have selected these components for combination in the manner claimed**. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

With reference to Claims 3 and 12, the Office Action acknowledges that Yamazaki "fails to embed the portions of the device into the substrate." (Office Action, p. 5). Item 44 and col. 10, lines 37-55 of Fukutomi are cited as teaching these recitations. As an initial matter, Fukutomi relates to fabrication of wiring boards, which are not described in Yamazaki. Rather, Yamazaki relates to a liquid crystal display device. There is no basis for combining these references so that "printed wiring boards can easily be connected to and still employ a temporary substrate" as there is no suggestion of using a printed circuit board in Yamazaki or a temporary substrate in Fukutomi. Furthermore, the wiring pattern 44 of Fukutomi is positioned in the substrate 45 to provide a smoother surface, not to provide components of a circuit on two sides of a carrier, as with the claimed invention. Accordingly, the rejections of Claims 3 and 12 should also be withdrawn for at least these additional

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reasons.

With reference to Claim 22, this claim recites "after removing the temporary substrate additional components of the electrical circuit are mounted on a side of the electrically conductive substrate remote from the carrier element." In the context of the rejection of independent Claim 14, such would require that, after the operations leading to Figure 5D of Yamazaki, that additional elements be added to the surface 53 that are part of the electrical circuit. However, Applicants can find no such suggestion or disclosure in Yamazaki nor any disclosure in Nakamura that could be so combined with Yamazaki. Furthermore, the Office Action appears to give no explanation of where such a teaching is found in either reference. Accordingly the rejection of Claim 21 should also be withdrawn for at least these additional reasons. If the rejection is not withdrawn, Applicants request an explanation of how the cited art teaches the recitations of Claim 21, with citations to specific portions of the references allegedly providing such teachings.

Conclusion

Applicants respectfully submit that, for the reasons discussed above, the references cited in the present rejections does not disclose or suggest the present invention as claimed. Accordingly, Applicants respectfully request allowance of all the pending claims and passing this application to issue.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert W. Glatz", written over a horizontal line.

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